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Attorney Docket No. 1144D

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number : 6,734,341 B2
Issued : May 11, 2004
Name of Patentee : Pioneer Hi-Bred International, Inc.
Title of Invention : Starch Synthase Polynucleotides and Their Use in the
Production of New Starches

Certificate
JUN 30 2004
of Correction

Attn: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR PTO MISTAKE (37 CFR 1.322(a))**

1. Attached, in duplicate, is Form PTO/SB/44, with at least one copy being suitable for printing.
2. The exact page and line number where the errors are shown correctly in the application file are:

Page 1, Line 17:

Serial No. 09/388,743 filed September 2, 1999, the disclosure of which is incorporated herein by reference. A copy of the first page of the specification is enclosed for the convenience of the Office.

Information Disclosure Statement by Applicant, Sheet 1, Cite No. A3 and Sheet 2, Cite No. A7, A8 and A9 filed 10/02/2003. A copy of the IDS is enclosed for the convenience of the Office.

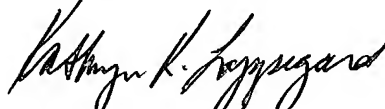
1 JUL 2004

Patent No. 6,734,341 B2
Attorney Docket No. 1144D

3. Please send the Certificate to:

Name Kathryn K. Lappegard
Address: Pioneer Hi-Bred International, Inc.
Corporate Intellectual Property
7100 N.W. 62nd Avenue
P.O. Box 1000
Johnston, Iowa 50131-1000

Respectfully submitted,



Kathryn K. Lappegard
Agent for Applicant(s)
Registration No. 46,857

PIONEER HI-BRED INTERNATIONAL, INC.
Corporate Intellectual Property
7100 N.W. 62nd Avenue
P.O. Box 1000
Johnston, Iowa 50131-1000
Phone: (515) 253-5707
Facsimile: (515) 334-6883



NOVEL STARCH SYNTHASE POLYNUCLEOTIDES AND THEIR USE IN THE PRODUCTION OF NEW STARCHES

5

George W. Singletary

Lan Zhou

10

TECHNICAL FIELD

The present invention relates generally to plant molecular biology. More specifically, it relates to nucleic acids and methods for modulating their expression in plants.

15

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority under 35 USC 120 to U.S. Patent Application Serial No. 09/388,743 filed September 2, 1999, the disclosure of which is incorporated herein by reference.

20

BACKGROUND OF THE INVENTION

Starches are polymers of glucose molecules produced and stored only in the chloroplasts and amyloplasts of plants. Most of the starch produced in the world is used as food, but about one-third of the total production is employed for a variety of industrial purposes that take advantage of starch's unique properties. These properties (e.g. viscosity, gelatinization temperature) vary greatly with the plant source and affect the usefulness of the starch for food and nonfood products. (Sivak and Preiss, *Advances in Food and Nutrition Research*, Vol. 41. Academic Press, 1998, p. 163.) The properties of a starch are determined by the structure of its constituent granules and the polymers from which the granules are formed. Molecular structure is, in turn, dependent largely upon the presence and activity of specific isozymes of starch synthase. Genes encoding the starch synthase enzymes are therefore of interest.

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	2
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Complete if Known

<i>Application Number</i>	10/044,543
<i>Filing Date</i>	01/11/2002
<i>First Named Inventor</i>	George W. Singletary
<i>Art Unit</i>	1638
<i>Examiner Name</i>	Fox, David T.
<i>Attorney Docket Number</i>	1144D

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

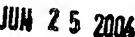
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	A2	WO 97/20936	06/12/1997	Zeneca Limited	Whole Document	
	A3	WO 97/26362	07/24/1997	Plant-Tec Biotechnologie GmbH	Whole Document	
	A4	WO 97/45545	12/04/1997	Hoechst Schering AgrEvo GmbH	Whole Document	
	A5	CA 2,205,118	05/23/1996	Hoechst Schering AgrEvo GmbH	Whole Document	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



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Substitute for form 1449B/PTO

(Use as many sheets as necessary)

Sheet	2	of	2
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Complete if Known

<i>Application Number</i>	10/044,543
<i>Filing Date</i>	01/11/2002
<i>First Named Inventor</i>	George W. Singletary
<i>Art Unit</i>	1638
<i>Examiner Name</i>	Fox, David T.
<i>Attorney Docket Number</i>	1144D

NON PATENT LITERATURE DOCUMENTS

[illegible]

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 6,734,341 B2

DATED : May 11, 2004

INVENTOR(S) : George W. Singletary, Lan Zhou

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Title Page, Item (62), Related U.S. Application Data, should read as follows:

-- Division of application No. 09/388,743, filed on Sep. 2, 1999, now Pat. No. 6,423,886. --

Title Page, Item (56), References Cited, Foreign Patent Documents, should read as follows:

-- WO WO 97/26362 7/1997 --

Title Page, Item (56), References Cited, OTHER PUBLICATIONS, Nakatani et al. reference should read as follows:

-- Relationship between Starch Content and Activity of Starch Synthase and ADP-glucose Phrophosphorylase in Tuberous Root of Sweet Potato, Jpn. J. Crop Sci., 1992, 61(3)463-468. --

Title Page, Item (56), References Cited, OTHER PUBLICATIONS, Salehuzzaman et al. reference should read as follows:

-- Isolation and characterization of a cDNA encoding granule-bound starch synthase in cassava (*Manihot esculenta* Crantz) and its antisense expression in potato, Plant Mol. Biol, 1993, 23:947-962. --

Title Page, Item (56), References Cited, OTHER PUBLICATIONS, Dry et al. reference should read as follows:

-- Characterization of cDNAs encoding two isoforms of granule-bound starch synthase which show differential expression in developing storage organs of pea and potato, The Plant Journal, 1992, 2(2):193-202. --

MAILING ADDRESS OF SENDER: Pioneer Hi-Bred International, Inc.
7100 N.W. 62nd Avenue
P.O. Box 1000
Johnston, IA 50131-1000

PATENT NO. 6,734,341 B2

No. of additional copies

➡ Page 1 of 1

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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- 1) Request for Certificate of Correction of Patent /2 Pages (1 copy)
- 2) Copy of First Page of Specification /1 Page (1 copy)
- 3) Copy of IDS (1449) Filed 10/02/2003 /2 Pages (1 copy)
- 4) Certificate of Correction /1 Page (2 copies)

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